

Algae Again

It's winter now, but green water is coming.

By Stephen M. Meyer

Q. I have heard that in spring there is a tremendous algae build-up in ponds that lasts about six weeks. Would snails help to eliminate this problem? If so, can I use normal aquarium snails, and will they survive the winters?

A. Most ponds do indeed "green up" in spring with a dense bloom of planktonic algae. Frequently, the bloom is so thick that the water looks like pea soup and the fish become totally invisible. Unfortunately, often it does not go away after a few weeks. It may hang around all summer. It is safe to say that this particular problem is the one that causes the greatest amount of grief to pondkeepers everywhere.

Unfortunately, snails will have absolutely no effect on the problem. For the most part, snails do not dine on planktonic algae forms. And to the extent that larval snails may eat planktonic algae the quantities are far too small to be noticeable.

For natural control of algae blooms you have to look to competitors for vital nutrients in the water: other plants and nitrifying bacteria. The two nutrients that are highly correlated with algal blooms are nitrogen and phosphorus. The former is dissolved in pond water in the forms of ammonia, nitrite, and nitrate. Phosphorus is present in the form of phosphate and in most cases it is the limiting nutrient. That is, the concentration of phosphate in the pond water will determine the extent of the algal bloom. If you cut the concentration of phosphate, you will reduce the degree of the algal bloom.

Plants such as iris, cattails, and water hyacinth are good consumers of phosphates. The more vigorous the growth rate of the plants, and the more of them, the more effectively they will be able to compete with the algae for dissolved nutrients. If you harvest mature plants halfway through the growing season by cutting them back, they will continue to be heavy consumers of phosphate in the water.

A biological filter is also a good competitor for phosphates. The nitrifying bacteria that populate the filter have a high phosphorus demand. A properly designed and operating biological filter, therefore, can clear a pond very rapidly despite the fact that it is a producer of nitrate.